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## Learning about the Effects of Context on Teaching and Learning in Pre-Service Teacher Education

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## **Learning about the Effects of Context on Teaching and Learning in Pre-service Teacher Education**

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*Abstract: Preparing teachers to work effectively within increasingly diverse contexts is a key goal of teacher education programs. This study analyses the extent to which a semester unit within a teacher education course provided pre-service teachers with the understanding and practices required to teach in low socio-economic status (SES) contexts. The results suggest that a unit, which emphasises links between theory, historical perspectives and practice, can effectively provide pre-service teachers with the key understandings and skills associated with improving equity outcomes in education. However, when the ideas being presented conflict with pre-existing, strongly held ideas about the role of schooling, practices associated with equity will not be sustained.*

### **Introduction**

The capacity of teachers to support student achievement in diverse contexts has become increasingly important in the developed world in recent times. Governments currently link future prosperity and social cohesion with the improvement of outcomes in schooling for students from low SES and ethnic minority backgrounds who traditionally struggle to achieve. Teacher educators, working in the developed world, are aware that they are training teachers to operate within contexts that are increasingly defined by degrees of wealth and cultural diversity. However, while there is a common concern that teachers can support students coming from increasingly diverse backgrounds, there is little agreement currently about how to prepare future educators for an increasingly complex environment. Alarmingly, discussion within the public realm often emphasises simplistic arguments in which teacher education programs are blamed for continued inequality in the outcomes of schooling. This study adds to the research currently being conducted by teacher educators, which seeks both to highlight the complexities involved in preparing teachers to work within diverse contexts and to develop a body of literature about best practice in the area.

#### **The Effects of Context on Teaching and Learning**

Numerous theorists and researchers, working in the field of education, have emphasised the effects of social, cultural and economic contexts on teaching and learning. Most famously, theorists in France in the 1970s revealed how schooling was used as a tool to support the needs and aspirations of the wealthy dominant class (Bourdieu, & Passeron, 1990). More recently, research in Australia has supported the earlier findings in France, demonstrating how those in society from high socio-economic backgrounds manipulate schooling and the curriculum to ensure their interests are maintained (Teese, & Polesel, 2003). In the USA, detailed studies of tracking over a number of years have demonstrated

how schools, curriculum and teaching can limit opportunities to learn and achieve for students from low socio-economic backgrounds and ethnic minority groups (Buckley, 2010; Gamoran, 2010; Gamoran, & Mare, 1989; Oakes, 2005; Page, & Valli, 1990; Terwel, 2005). Studies from around the world, over a number of decades, have consistently demonstrated that schooling tends to reproduce the inequalities that exist within society.

The reasons why schooling does not create meaningful opportunities for all groups of students have also been well documented in past research and theories of education. Schools, curriculum and teachers tend to value the kinds of knowledge and skills that are promoted and developed within families in high socio-economic status (SES) contexts (Bourdieu, & Passeron, 1990; Teese & Polesel, 2003). Students from low SES backgrounds, in particular, tend to lack the linguistic and cultural capacities that are generally required to succeed within schooling. In addition, teachers and the curriculum work effectively for students from high SES backgrounds who already possess many of the aspirations and capacities valued within schooling (Bourdieu, & Passeron, 1990; Gamoran, 2010; Oakes, 2005; Teese, 2007; Teese, & Polesel, 2003). In contrast, students from low SES and ethnic minority backgrounds often have educational experiences defined by low expectations, a weak curriculum, with an emphasis on basic skills rather than higher-order thinking, and constant disruption within learning environments that do not emphasise learning and achievement (Eder, 1981; Gamoran, 2010; Oakes, 2005; Oakes, Gamoran, & Page, 1992; Page, 1990).

The tendency of schooling to reproduce the inequalities that already exist within society has been well documented by researchers for the past five decades. Initial studies in France by Pierre Bourdieu and Jean-Claude Passeron during the 1970s provided an extensive theoretical framework for explaining the reproduction of inequality through schooling. Their work provided the concept of 'habitus', which refers to the 'system of schemes of thought, perception, appreciation and action' that a child first acquires within the culture of the family (Bourdieu, & Passeron, 1990, p. 40). The habitus initially acquired by a child then affects the experience of schooling. The extent to which a child can absorb and assimilate classroom-based learning is determined to a large extent by the habitus developed within the home. Those students from home backgrounds situated within the dominant culture of the society will have the kind of habitus that is closely aligned with the expectations and demands of schooling. In turn, the pedagogies employed by teachers will support and extend the achievements of those students who come from the dominant culture, but largely fail to support students whose initially acquired habitus is far removed from the experience of schooling (Bourdieu, & Passeron, 1990).

Governments within Australia, and around the world, have increasingly focused on the effects of context on education in recent years. Changes to the nature of economies and work have increased the value placed on school completion and academic success within quality curriculum (Darling-Hammond, 2006; Teese, & Polesel, 2003). In Australia, current governments, at state, territory and national levels, view schooling as essential for future prosperity and wellbeing. In 2008, representatives from all the state and territory governments in Australia met to define the goals of schooling. The participants agreed that 'a high quality of life for all will depend on the ability to compete in the global economy on knowledge and innovation' (Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2008, p. 04). Government officials concluded that both 'ongoing economic prosperity and social cohesion' are dependent on quality schooling and that schools must now prepare all students for the completion of year twelve, as well as further training and education that leads to skilled jobs (MCEETYA, 2008, p. 04). The officials from around Australia also acknowledged that the greatest challenge involved providing policies and practices that enabled students from low SES and minority backgrounds to achieve much greater success in schooling than they had experienced in the past (MCEETYA, 2008).

Australia is one of many countries currently around the world that is associating future national prosperity and wellbeing with increasing the capacity of schooling to provide students from low SES and ethnic minority backgrounds with meaningful pathways into tertiary education and work. In 2007, The Organisation for Economic Co-operation and Development (OECD) published the report *No More Failures: Ten step to equity in education* (Field, Kuczera, & Pont, 2007). The document was based on inquiries into education provision within ten member countries of the OECD. It reported that '[t]he long-term social and financial costs of educational failure are high. Those without the skills to participate socially and economically generate higher costs for health, income support, child welfare and security' (Field, Kuczera, & Pont, 2007, p. 11). A more recent OECD report on equity in education repeated the concerns, emphasising 'how damaging to economic as well as social goals is the phenomenon of exclusion and widespread under-achievement' (OECD, 2010, p. 68). The report went on to explain 'school failure has large costs not only to those involved, but also to society, because the welfare costs of marginalized persons are large' (OECD, 2010, p. 68).

As well as sharing a concern to improve the outcomes of schooling, countries have also begun to implement similar policies and strategies to achieve this aim. Curriculum reform, national testing programs and the setting of standards for quality teaching have been part of efforts to improve the outcomes of schooling (Australian Institute for Teaching and School Leadership [AITSL], 2012; Bohrnstedt, & O'Day, 2008; Cochran-Smith, 2004; Gamoran, 2007; Hopmann, 2008; Karen, 2008; Linn, 2008; Pullin, & Haertel, 2008; Schneider, 2009; Zeichner, 2008). The capacity of teachers to support the success of learners from diverse backgrounds is now central to the perception of quality teaching (Darling-Hammond, 2006; Darling-Hammond, 2000; Lingard, Mills, & Hayes, 2000). In Australia, the new national standards for teachers emphasise the ability of teachers to improve the achievements of students within schooling (AITSL, 2012). In particular, the standards highlight the capacity of teachers to meet the learning needs of students from ethnic minorities and low SES contexts (AITSL, 2012).

The current emphasis on improving the outcomes of schooling by governments around the world has focused attention on teacher education programs. The success of tertiary institutions involved in the training of teachers is increasingly associated with the ability of graduates to improve outcomes for those students who traditionally do not succeed within schooling (Aspland, 2008; Cochran-Smith, 2004; Darling-Hammond, 2006; Darling-Hammond, 2000; Jorgensen, Grootenboer, Niesche, & Lerman, 2010; McInerney, 2007; Mills, 2008; Milner, 2005; Santoro, & Allard, 2005; Whitehead, 2007). Within public debate, the capacities of teachers associated with improving student outcomes are often simplified and the complexities of training educators for complex and diverse contexts underestimated. Failings in the school system are often associated with graduate teachers lacking basic skills. Currently, in Australia, persistent inequality in education is being linked with low tertiary entrance requirements for teacher education programs. Commentators suggest that candidates who enter teacher education courses have poor abilities to begin with, especially in the areas of literacy and numeracy, and that the tertiary courses they undertake do little to raise their capacities (see for example Bantick, 2012; Donnelly, 2012; Ferrari, 2012).

Public debates about teacher education usually do not take into account the complexities involved in training educators for extremely complex and very diverse learning environments. Recent research in teacher education has begun to highlight these complexities. It suggests that teacher education programs that integrate closely theory and practice will be more successful at producing graduates who can work flexibly and effectively in a broad range of contexts (Darling-Hammond, 2006; Milner, 2005; Poplin & Rivera, 2005; Whitehead, 2007). The research also indicates that an emphasis on analysis helps to develop the capacities required to interpret curriculum requirements and to gauge constantly the learning needs and progress of individual students (Darling-Hammond, 2006).

More specifically, deep understanding of content areas is required for pre-service and graduate teachers to be able to assess students' needs, set high expectations, including higher-order thinking, and to implement a range of strategies to support the learning of all students (Abu El-Haj, & Rubin, 2009; Darling-Hammond, 2006; Hattie, 2009; Loughran, 2006; McDonald, 2005; Poplin, & Rivera, 2005; Zeichner, 2008).

Research within the field of teacher education has also begun to acknowledge and emphasise the ways in which the experiences, perceptions and beliefs that pre-service teachers bring to their tertiary education will affect their learning experiences and final outcomes. Each pre-service teacher brings to university a *habitus* that has been extensively defined by the cultural and social context of their family, as well as educational experiences within school environments. Every pre-service teacher will hold, to some extent, attitudes and beliefs related to the role of schooling, equity and the factors that influence academic achievement. Teacher education programs that acknowledge the role of these beliefs and attitudes in the learning experiences of pre-service teachers are more likely to be successful. Linda Darling-Hammond's (2006) synthesis of studies on successful teacher education suggests programs that highlight historical perspectives and theories about the influences of social contexts and the implications for pedagogy will help pre-service teachers to examine their own experiences and form beliefs and practices related to equity. Other research also supports the view that teacher education programs need to influence the beliefs and understandings pre-service teachers have about equity issues. Pre-service teachers' beliefs about why some students do not succeed within schooling often need to be challenged (Abu El-Haj, & Rubin, 2009; Milner, 2005). A study, situated within Australia, demonstrates that community service experiences, as part of teacher education courses, can increase students' social awareness and break down preconceived stereotypes (Ryan, Carrington, Selva, & Healy, 2009). For graduate teachers to work effectively in diverse contexts, ideas about fixed abilities and set levels of intelligence need to be replaced with an understanding of how life experiences and opportunities to learn affect outcomes in education (Abu El-Haj, & Rubin, 2009). Teacher education programs that support pre-service teachers to believe that they can make a difference in all contexts with all learners are more likely to produce graduates who make a difference to students' outcomes (Darling-Hammond, 2006).

Previous work in the area of teacher education suggests that the dispositions that pre-service teachers bring to their university studies will not be static and can be altered through learning experiences. Pierre Bourdieu's theoretical work on the role of *habitus* supports the claims being made within teacher education. A person's *habitus* will not remain static throughout their life and can be altered through external experience. Individuals have the agency to change attitudes and beliefs in response to new understanding and experiences. The social practices that a person engages in within any specific context may be a result of previously formed dispositions or new attitudes and understandings based on influences from the current external environment (Bourdieu, 1990).

This article contributes to those recent studies in teacher education that highlight the complexities involved in training educators who can make a difference to equity in education. It presents an analysis of a range of strategies that were used within a teacher education program on the regional campus of an Australian university to provide pre-service teachers with theoretical understanding and teaching practices related to working in contexts where students do not typically achieve within schooling.

## Methodology

The aim of this study was to trial and analyse a range of strategies designed to build the capacity of pre-service teachers to work in contexts where students traditionally struggle within schooling. Findings from recent research in the field of teacher education, informed the teaching and learning practices used within a 12-week unit of study on the importance of context in teaching and learning. The pre-service teachers undertaking the unit were either in their second year of a Bachelor of Education Primary course or their third year of a Bachelor of Education Early Childhood and Primary course at a rural campus of an Australian university. Lectures, tutorial discussions and readings aimed initially to develop an understanding of theoretical and historical perspectives on inequality in education. The content within this part of the unit was designed to emphasise the role of context on learning experiences and outcomes, as well as to challenge any beliefs that individuals and groups of students from particular backgrounds have fixed capacities. An introduction to Bourdieuan theory and research was followed by specific examples, which highlighted the tendency for schooling, over a number of decades and within many countries, to reproduce social inequality. Various examples of school settings and ability grouping, including tracking in the United States, were used to emphasise how contextual factors, such as class, became linked with education policies and strategies that could limit opportunities for particular groups of students to learn. Extracts from two films, *The Freedom Writers* (2007) and *The Class* (2008), were used to reinforce key concepts, such as the way in which context could affect attitudes towards schooling, as well as the knowledge and skills that students bring to their learning. The films then demonstrated how schooling could either reinforce or work against the perpetuation of inequality. *The Freedom Writers* (2007) provided concepts associated with ability grouping and tracking in the United States, while *The Class* (2008) presented issues associated with teaching and learning in a low-SES and culturally diverse classroom. In the first few weeks of the unit, every lecture, discussion and resource aimed to highlight the effects of context on learning environments and to challenge any preconceived belief that underachievement was always the result of limited innate capacities of students.

The unit then focused on some of the teaching and learning practices that researchers have associated with maximising opportunities to learn in low SES contexts and improving outcomes for groups of students who traditionally do not succeed within schooling. During lectures and tutorial discussions, links were made constantly between the theoretical understanding of how context can affect learning outcomes and the teaching and learning strategies being promoted for low SES contexts. The importance of high expectations in all curriculum areas, along with support for the development of basic skills and higher-order thinking, was emphasised. The unit also included research on mixed-ability grouping, including especially work in the field of cooperative learning. The use of scaffolding in all curriculum areas to build linguistic capacities was highlighted, along with the importance of assessing individual student progress, personalised feedback and strategies for developing metacognition. Throughout this part of the unit, the notion that students need multiple opportunities to gain conceptual understanding and access the curriculum was constantly highlighted.

The assessment practices used within the unit also reinforced the connections being made between theory and practice. The main assessment tasks for the unit required the pre-service teachers to design a unit of work for a mixed-ability classroom, in a low-SES context, where some students had considerable gaps in their learning. The pre-service teachers then were asked to produce a 500-word rationale that used theory and research to explain why they included particular strategies and approaches.

### Data Collection and Analysis

The data collection procedures used within this study aimed to investigate the understandings of the pre-service teachers at the end of the unit and to determine the extent to

which they could apply theory and practice when producing a plan for teaching and learning, along with a rationale for their decisions. The questionnaire completed by the pre-service teachers at the end of the 12-week unit aimed to assess their understanding of the effects of context on teaching and learning. It also asked the pre-service teachers to evaluate the teaching strategies and resources used within their 12-week unit to teach about equity in education. The first 3 questions related to the pre-service teachers' understanding from the unit. They were first asked to discuss the methods that they thought were most important when supporting students from diverse contexts. The next question asked the students to define the term 'differentiation' and the following question required them to describe the practices associated with differentiation that they would use and to explain why they would choose these strategies. The fourth question asked the pre-service teachers to indicate whether or not the 12-week unit supported their understanding of how to cater for students from diverse backgrounds. The pre-service teachers were then asked to discuss which strategies within the 12-week unit had supported their understanding and to list any other strategies that the unit could have used. The final question of the questionnaire asked the pre-service teachers to make any further comments.

Analyses of the units of work and rationales produced by the pre-service teachers provided further insight into the extent to which they had understood and could apply the concepts taught during the 12-week unit. The unit of work consisted of 3 sequenced lesson plans. The pre-service teachers had to first define learning outcomes for the unit, which corresponded to a part of the standard for a particular learning domain from the current curriculum for Victorian primary schools. They then were required to include multiple teaching strategies over the 3 lessons that would support all students to reach the goals set by the curriculum within a class situated within a low SES context. Each pre-service teacher then produced a 500-word rationale that used research and theory from the 12-week course to justify all of the strategies that they had incorporated into their units of work. Analyses of the units, along with the rationales, made it possible to analyse the extent to which the pre-service teachers had linked theory and practice after university-based teaching about equity in education had occurred.

The approaches used within this study were informed by previous research in teacher education and approaches associated with thematic analyses used within case-study methodology. During analysis of the questionnaires and units of work, categories of responses by the pre-service teachers were identified. The sorting of data, related to the questionnaires and units, then involved tallying the number of pre-service teachers who provided responses that corresponded with the particular categories associated with the data. Specific quotations were then selected to analyse further the themes and conclusions. Final analysis of the thematically organised data from the questionnaires and units, along with particular responses made by individual pre-service teachers, enabled the researchers to make generalisations and conclusions. Analysis of the rationales produced by the pre-service teachers occurred in two ways. First, a judgement was made about whether the rationales demonstrated deep learning, with research used to present detailed and reasoned explanations for the teaching practices used within the units of work, or superficial learning, where teaching practices were merely described and research was used to provide basic descriptions. Second, the researchers assessed the extent to which the rationales suggested a belief that teachers could make a difference to the progress of all learners.

The use of more than one data set within this study was informed by Pierre Bourdieu's insights to the kind of methodology appropriate for investigating complex social practice. Within his own studies, Bourdieu drew on multiple data sets, including those that went beyond participants' reflections on their experiences. Tools that merely ask individuals to provide a description of their behaviour are likely to produce misleading accounts that are informed by what participants believe officials within a particular context want to hear (Jenkins, 2002). The use of additional methods, which go beyond participant reflections on

experiences, is more likely to generate results that provide a more accurate explanation of individuals' attitudes, ideas and experiences within a particular social context (Jenkins, 2002). In this study, the researchers used a questionnaire, along with other data collection methods, to inform analyses and generate conclusions. The use of the questionnaires, rationales and units of work together were likely to provide a more accurate and detailed account of the experiences of the pre-service teachers in the study.

Thirty-one pre-service teachers volunteered to participate in the study. All of the participants completed questionnaires, rationales and units of work. No participants left this study prior to its completion.

## Results

Data from the questionnaires conducted at the end of the 12-week unit reveal that the majority of the students had understood the key concepts associated with the effects of context on teaching and learning. When asked to discuss the methods that they thought were most important when supporting students from diverse contexts, 26 students presented lists of strategies associated with supporting all students to reach high expectations.

Method listed	Number listing this method (N=31)
Variety of scaffolding strategies	8
Different types of assessment	6
Mixed-ability grouping and cooperative learning	13
High expectations of all students	8
A range of strategies to support understanding	5
Discussion	7
Information presented in different ways	4
Student reflection	3
Teacher reflection	1
Assessment of prior knowledge	3
Teacher one-on-one support	1
Peer support	1
Pacing of learning	2
Questioning	1

**Table 1: Methods Listed by Pre-Service Teachers Associated with Supporting all Students to Reach High Expectations**

In contrast, 5 pre-service teachers discussed methods that were in opposition to the key concepts covered in the 12-week unit. The methods they listed involved perceptions that students' abilities were a result of innate capacities, rather than the effects of context, and that expectations and teaching needed to be lowered to match the students' capacities.



Method listed	Number listing this method (N=31)
Opportunity to work at different levels	1
Ability grouping	1
Practices relevant to individual abilities	1
Accept limitations of some students	1
Alter lessons for high and low achievers	1
Understand uniqueness and adapt	1
Cater for preferred learning style	1

**Table 2: Methods listed by pre-service teachers associated with adapting expectations and teaching to students' current ability levels**

The next two questions within the questionnaire sought to assess more deeply the extent to which the pre-service teachers had understood the concepts covered within the 12-week unit. They were asked to define 'differentiation'. Teaching about this term during the unit involved an analysis of historical perspectives. Lectures, readings and tutorial discussions guided pre-service teachers to analyse how uses of differentiation had changed over time in response to research about equity in education. They learnt how initially the term involved altering curriculum expectations for certain groups of students, but that more recent applications of the term related to using a range of teaching and learning practices to support the individual progress of all students within learning contexts defined by curriculum standards. Responses to the questionnaire reveal that 15 of the 31 students understood the way in which meanings associated with the term had changed over time. These students could discuss that current usage of the term took into account equity issues in education. They presented definitions which highlighted how context could affect the skills and knowledge held by students and described how a range of teaching practices were required to support all students to progress within the curriculum. For example, one student wrote that the term involved 'differing abilities and finding ways that allows all students opportunities'. Another student associated the term with 'different levels of ability' in the classroom and the need for a '[r]ange of experiences' along with the assessment of 'prior learning'. Sixteen of the pre-service teachers presented early definitions of the term and related it to matching curriculum, expectations and teaching practices to the innate capacities of students. For example, one student responded that the term involved 'different abilities amongst students relating to their intellectual ability'. Another student explained how the term meant 'different curriculum for different students directing them in different paths'.

However, when asked to list and explain the practices associated with differentiation that they would use, it became clear that most of the pre-service teachers did understand the way in which the concept of differentiation had changed over time. Twenty-four of the pre-service teachers explained practices associated with supporting all students to progress towards high expectations. One student explained how they would do '[p]lanning for mixed ability. So all students require the support and structure they need to achieve their potential.' Another pre-service teacher explained how they would use '[m]ixed ability grouping-giving the students opportunity to see a different point of view, and to support and learn from each other.' Similarly, another pre-service teacher explained the benefits of mixed-ability grouping, stating that it helps 'all students to reach the same outcome and expectation'. Another pre-service teacher described how they would constantly use mixed-ability groups to generate lots of discussion. Other pre-service teachers made associations between differentiation and teaching practices such as scaffolding, assessing and building on prior learning, modelling, questioning, assessing progress and providing feedback. One pre-service teacher stated that they would use a range of practices to 'explain in detail [and] model expectations to include all students [and] to ensure all students have opportunity to learn'. Two of the pre-service teachers stated that they were unsure what practices they would use, while 5 listed practices associated with an older definition of differentiation. All of these

students thought that they would alter expectations and use tasks to ensure that the students could manage, using their current levels of abilities.

Data collected from the units of work produced by the pre-service teachers reveal some discrepancy with the results seen in the questionnaires. When choosing teaching and learning practices to include within the units, all of the trainee teachers demonstrated current knowledge of the ways in which differentiation could be used to extend, rather than limit, progress. This result indicates that the small number of students who spoke about older definitions of differentiation, and who thought that they would lower expectations for some students and use ability grouping, were able to use differentiation practices associated with progress for all students when required to in an assessment task. Thirty of the pre-service teachers incorporated cooperative learning strategies for mixed-ability groups. Twenty trainee teachers stated explicitly the importance of having high expectations of all learners. All of the pre-service teachers included at least one strategy designed to support the progress of students towards curriculum goals.

Teaching practices incorporated into units	Number incorporating this practice (N=31)
Assessing and building on prior knowledge	18
Cooperative learning in mixed-ability groups	30
Setting high expectations for all students	20
Focusing on higher order thinking	6
Monitoring individual progress of students	5
Scaffolding learning	20
Explicit/direct instruction	6
Modeling	15
Substantive conversations	6
Teacher questioning	4
Repetition of concepts	1
Reflecting on learning	15
Pacing/longer time on task for some students	7
Explicit assessment criteria	4
Feedback on learning	4
Deliberate intervention	2
Shared learning goals	1

**Table 3: Teaching Practices incorporated into Units of Work by Pre-Service Teachers**

Analyses of the rationales produced by the pre-service teachers for their units of work also provided insight into the degree of understanding of historical and theoretical perspectives developed during the 12-week semester. Within the rationales, the pre-service teachers had to use research to justify the decisions that they made when creating their unit of work. Twenty-eight of the 31 students were able to provide detailed and reasoned explanations for the content of their units. These students generally drew on a range of research to argue that every teaching practice employed had to increase opportunities to learn for all students in the class, regardless of background, prior knowledge and current abilities. One student began her rationale by stating that ‘teachers must cater for diversity in order to give every student equal opportunities to both learn and succeed’. Another student used some recent research to explain that ‘[t]eachers often unconsciously send different messages to students at different levels in their classroom. Students who are considered low achievers will often receive more criticism, less praise and less feedback than their peers who are considered high achievers’. When referring to specific teaching and learning strategies, the pre-service teachers demonstrating deeper understanding could provide reasoned explanations for their inclusion within a planned unit. One pre-service teacher used Jeannie Oakes and Martin Lipton’s (2007) work, *Teaching to change the world*, to explain that ‘by

pairing students of mixed ability it allows the ideas and reflections of the students with a higher ability to be shared with their peers whose knowledge base is not as developed, creating a zone of proximal development'. Another trainee teacher used research to justify their use of modelling, explaining that '[e]ffective teachers do not only model the process that students will later undertake, they also stress important factors of the process and clearly show what is happening and how they will achieve the end result'. For another pre-service teacher the development of metacognition was a particularly important point from their research. They explained that '[s]elf-assessment encourages students to take a greater responsibility for their own learning as well as providing valuable insights into student learning for teachers'.

The rationales of the pre-service teachers demonstrating deep understanding also revealed a belief that teachers could make a difference and support the learning of all students. For example, one pre-service teacher began their rationale by stating 'all children can learn' in 'the right learning environment and when given high quality teaching and support'. In contrast, 8 of the pre-service teachers merely described a list of teaching and learning strategies. Their research was used to explain strategies, rather than to provide insight into the reasons why particular teaching practices are being associated with greater equity in education. These pre-service teachers did not reveal a sense that teachers could be instrumental in supporting the progress of all learners.

Data from the questionnaires also related to the strategies used within the 12-week unit to teach the pre-service teachers about the effects of context on learning and the implications for teaching. When asked if the unit had helped to support their understanding of how to cater for students from a range of contexts, 29 pre-service teachers indicated that it had, while 2 did not respond to this question. The pre-service teachers were then asked to explain which strategies, used during the teaching of the unit, had helped them the most. Eight pre-service teachers highlighted the importance of aligning assessment with the goals of the unit and including an assessment task that involved putting abstract theory into practice. These pre-service teachers thought that the task involving the creation of a unit of work for students from low-SES contexts supported their understanding. One pre-service teacher explained how '[i]t allowed me to use what I had been taught in an effective way that allowed me to understand how it can be incorporated'. Another trainee teacher commented 'I loved the opportunity to make a unit of work that could be applied to a real-life classroom; it made me really think about how it would be implemented.' Often the pre-service teachers listed a combination of the strategies that had been used during the 12-week unit. They especially liked group discussions during tutorials, the weekly readings and associated questions, the discussion points that were integrated into lectures and the Powerpoints created for each lecture, which were thought to contain key points and clear explanations. The strategies mentioned by the pre-service teachers have been summarised in the table below.

Strategy	Number listing this strategy (N=31)
Assessment task requiring application of theory to practice	8
Group discussion in tutorials	11
Weekly readings and associated questions	10
Discussion points incorporated into lectures	5
Powerpoints for lectures	6
Examples of teaching practices	2
Opportunities to related ideas to placement	3
Practicing teaching strategies in tutorials	2
Use of film	3
Use of scenarios	1
Feedback on assessment tasks	3
Rubrics for assessment tasks	1
High expectations for all	1
Support material for assessment	1

**Table 4: Teaching and Learning Strategies Used Within the 12-week Unit Listed by the Pre-Service Teachers**

The final section of the questionnaire resulted in data associated with how the pre-service teachers thought that the 12-week unit could be changed to further support their development of conceptual understanding and associated practices. Eight of the trainee teachers chose not to complete this section of the questionnaire. The responses that were given have been summarised below.

Change requested	Number requesting this change (N=31)
More discussion time	4
More questions to generate discussions	1
Working more in small groups to apply theory to practice	6
More examples of how theory is applied in practice	10
More examples from films demonstrating practice	5
More notes	1
Fewer readings	2
More information on assessment	1

**Table 5: Changes to the 12-week unit requested by the pre-service teachers**

## Discussion

For most of the pre-service teachers involved in this study, a 12-week unit, focusing on the effects of context on teaching and learning, effectively developed key understandings and teaching practices required to work in contexts where students traditionally do not succeed within schooling. Lectures, tutorials and readings about theoretical and historical perspectives on equity in schooling provided most of the pre-service teachers with a deep understanding of the ways in which contexts could affect opportunities to learn and achieve. At the end of the unit, these pre-service teachers could discuss the importance of holding high expectations for all students and the need to create supportive learning environments, which enabled the progress of all students. The rationales produced by these pre-service teachers

revealed a strong perspective that teachers could successfully promote the learning of all students and that any gaps in learning were associated with contextual factors, rather than the fixed innate capacities of the students.

In contrast, a small group of pre-service teachers within the study did not develop understanding about the effects of context on learning during the 12-week unit. For these trainee teachers, the capacities of students were fixed and the teacher's role was to design expectations and a learning environment that matched students' current capacities. While these pre-service teachers could design a unit of work that incorporated some of the teaching practices learnt during the semester to meet assessment requirements, they could not explain why they had chosen to include the strategies. This group of trainee teachers revealed little understanding of the theory and historical perspectives covered within the semester. Within their questionnaires, this group revealed that they would use strategies in the future designed to match the abilities of students.

The findings of this study support past research that highlights the importance of providing teacher education programs that are rich in theoretical understanding and applications to practice. Previous studies have suggested that the training of educators, who can work within an equity agenda, requires the development of deep conceptual understanding of the effects of context on learning, as well as the establishment of a repertoire of practices that can be applied flexibly in diverse contexts (Abu El-Haj, & Rubin, 2009; Darling-Hammond, 2006; Milner, 2005; Poplin, & Rivera, 2005). In this study, the pre-service teachers who developed understanding of how context can affect learning indicated that they would use practices in the future that supported the progress of every individual learner towards high expectations. The results suggest that these pre-service teachers had developed a depth of understanding that would guide their practice into the future. However, research is now required to investigate whether the habitus developed and demonstrated by most of the pre-service teachers within the unit continues beyond the immediate learning environment. The data sets collected and analysed within this study suggest that most of the pre-service teachers were demonstrating a level of understanding that went beyond merely meeting assessment requirements for a particular lecturer in a specific part of their course. The depth of understanding and translation into practice suggested that the learning would continue beyond the 12-week unit, but only a more extensive longitudinal study would determine whether or not future experiences reinforced or challenged the conceptual understanding presented by the pre-service teachers in this study.

In contrast, the small number of trainee teachers who did not develop an understanding of how context could affect learning, highlighted practices at the end of the 12-week unit that have been associated with perpetuating inequality in education, such as ability grouping and the adaptation of tasks and expectations for individual learners. Comments made within their questionnaires by this small group of pre-service teachers reveal that pre-existing ideas and experiences, that did not emphasise the role of context, were framing their understanding and guiding their practice. Rather than associating gaps in students' learning with context and opportunities to learn, this group of trainee teachers resisted the emphasis on context in the 12-week unit and expressed the idea that teachers should value every child as an individual and nurture their innate capacities. One pre-service teacher emphasised the importance of '[t]eachers accepting the diversity and allowing for all the students to be individuals in the classroom.' Similarly, another pre-service teacher expressed the opinion that 'each child is unique and individual' and that this needed to be acknowledged in the classroom. Another pre-service teacher agreed, stating that there needed to be an 'understanding of uniqueness.' For this group of pre-service teachers, the concept of supporting all students to reach the same high curriculum standards clashed with pre-existing ideas about the role of teachers and schooling. The results presented here support previous recent studies that highlight the importance of including content and experiences within pre-service education courses that challenge previously formed beliefs associated with equity in

education (Abu El-Haj, & Rubin, 2009; Darling-Hammond, 2006; Mills, 2008; Ryan, et al., 2009). The small group of pre-service teachers in this study who could not reconcile theories and ideas about equity in schooling with pre-existing ideas about the role of education required more than a 12-week unit on the effects of context on learning.

A broad range of teaching and learning strategies supported effective learning during the 12-week unit. The pre-service teachers especially valued the multiple opportunities that were provided to support the understanding of theoretical and historical perspectives on equity in education. The weekly readings, along with focus questions provided online, initially supported the trainee teachers to develop understanding of how research into equity in education had evolved over time. The readings, questions and discussions then became related to how theories about equity in education had informed teaching practices. The first part of tutorials each week involved the pre-service teachers discussing key concepts from the reading in small groups. Lectures and lecture notes supported the concepts covered in reading and tutorials each week. Most of the pre-service teachers valued this combination of strategies. In addition, they felt that an assessment task that required them to put theory into practice also supported their learning. When asked how the 12-week unit could be improved, the most common suggestion involved more opportunities to make links between theory and practice. Most of the pre-service teachers did not believe that the use of film had supported their understanding of key concepts. This response suggests that the pre-service teachers struggled to relate the contexts and plots of the films to the concepts being covered within the 12-week unit.

This study highlights the complexities involved in training pre-service teachers to work within contexts where students traditionally do not achieve within schooling. Providing trainee teachers with a set of practices that have no link with theoretical understandings about learning will not be effective. Teacher education courses require units that strive to teach about equity issues in education and the ways in which concepts and strategies have evolved over time. It is only through the development of a deep understanding of the ways that context can affect opportunities to learn and achieve that pre-service and newly graduated teachers will understand the dynamics of diverse contexts of learning and apply teaching practices that are associated with supporting every student to progress. In turn, such understanding will support the development of the core belief that teachers can positively affect the learning outcomes of all students in all contexts.

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